

CITY OF WHEATLAND

GENERAL PLAN UPDATE SEWER COLLECTION SYSTEM MASTER PLAN TECHNICAL REPORT



**Prepared July 22, 2005
Adopted July 11, 2006**

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**WHEATLAND GENERAL PLAN UPDATE
SEWER COLLECTION SYSTEM MASTER PLAN
TECHNICAL REPORT
Prepared July 22, 2005
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EXECUTIVE SUMMARY

General

The Wheatland General Plan Update (GPU) is a proposed mixed use urban development consisting of residential, commercial, industrial, office, open space, roads, parks, schools and a civic center. Included within the Project site will be a portion of the proposed north-south Highway 65 (HWY65) bypass.

Using the Preferred Land Use Map, the various Land Use blocks were assigned a "village" number. These villages were then assigned a sewer demand based on the Village Land Use & Size.

The proposed GPU land uses are shown on Figure 1, and summarized in Table 1.

A summary of approximate areas are as follows:

GPU: Water demand areas	3,469 acres *	**
<u>Urban reserve areas (UR)</u>	<u>4,736 acres *</u>	
Total GPU area	8,205 acres *	
Existing City Limits	<u>480 acres</u>	
Total GPU area + City Limits	8,685 acres	

* Area does not include existing UPRR and existing Highway 65

Note that the GPU acreage used in this report does not include the existing City sewer system. However, sewer demands for the existing City limits are included in the GPU demands as the proposed GPU trunk line system, because of its location will be able to take the existing City wastewater by a gravity sewer system and allow the elimination of the existing five (5) sewer lift stations. The GPU area does include the urban reserve (UR) areas, but no sewer demands are assigned to the UR areas.

Sewer Demands

GPU sewer demands are summarized as follows:

Type sewer demand	Average Day Dry Weather Flow (ADDWF) mgd
GPU: Sewer demand	4.45
<u>Urban reserve (UR)</u>	<u>0.00</u>
Total GPU area	4.45
Existing City Limits: Sewer demand	0.59
Total GPU area + City Limits	5.04

Table 1 provides a summary by land use types and average day sewer demands and equivalent dwelling units (EDU's) for the GPU area.

System Size and Model Results

The results of the system model shows that all the sewer lines can be gravity type to serve the GPU area including eliminating the existing five (5) sewer lift stations and replacing them with gravity line connections to the GPU proposed sewer lines.

Figure 2 shows the size and line number of the major sewer system components that modeled.

System Cost

For the GPU area, the opinion of probable construction cost is \$12,642,091 which includes sewer lines, manholes, stub extension from the manholes, and elimination of the existing five sewage lift stations. Table 2 includes the cost estimate for each of the major components.

Allocation of System Costs

The total GPU sewer system costs are proposed to be shared based on a Village's share in the cost of each sewer line segment based upon its share of the ADDWF in that segment of line.

The existing City build-out flows are used to size the GPU pipe segments, but the existing demands and lift station elimination costs are not used to determine cost sharing. Only the GPU areas are assumed to share in the total SMP cost which includes the existing lift station eliminations.

Table 3 includes a summary by land use types of the unit and total associated costs using the above methodology.

**WHEATLAND GENERAL PLAN UPDATE
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July 22, 2005**

I. INTRODUCTION

General

The Wheatland General Plan Update (GPU) is proposed mixed use urban development area located on approximately 8205-acres surrounding the existing City of Wheatland's corporate boundary. The area is currently in the unincorporated area of southern Yuba County and within the City's Sphere of Influence (SOI). The GPU is in general located between Dry Creek on the north, Bear River on the South, Jasper Lane on the east, and the existing sphere of influence limits of Wheatland on the west. The area is proposed to eventually be annexed to the City and developed. The project site is shown, along with its relationship to the existing City and proposed GPU land uses on Figure 1.

The GPU area is sparsely developed as farmland except on the west side where some large lot residential areas are located.

The GPU area will eventually be annexed into the City. Thus, the land use entitlement process will be under the jurisdiction of the City, which will serve as the lead agency.

Project Description

The GPU proposes mixed use urban development consisting of residential, commercial, industrial, office, open space, roads, parks, schools and a civic center. Included within the Project site will be a portion of the proposed north-south Highway 65 (HWY65) bypass.

Using the Preferred Land Use Map, the various land use blocks were assigned a "village" number. The villages were then assigned a sewer demand based on the village land use its size.

The proposed GPU land uses are shown on Figure 1, and summarized in Table 1.

A summary of approximate areas are as follows:

GPU: Sewer demand areas	3,469 acres *
<u>Urban reserve areas (UR)</u>	<u>4,736 acres *</u>
Total GPU area	8,205 acres *
Existing City Limits: Sewer demand areas	<u>480 acres</u>
Total GPU area + City Limits	8,685 acres

* Area does not include existing UPRR and existing Highway 65

Note that the GPU acreage used in this report does not include the existing City sewer system. However, sewer demands for the existing City limits are included in the GPU demands as the proposed GPU trunk line system, because of its location, will be able to

take the existing City wastewater by a gravity sewer system and allow the elimination of the existing five (5) sewer lift stations. The GPU area does include the urban reserve (UR) areas, but no sewer demands are assigned to the UR areas.

Purpose of Preliminary Sewer Master Plan

The purpose of this GPU sewer master plan (SMP) is to:

1. Estimate sewer demands needed to serve the GPU land uses and within the existing City limits at full development;
2. Include the methodology and criteria used to determine the major sewer system facilities sizing for pipes, manholes, lift-stations & WWTP sizing;
3. Develop a sewer model and calculate the size and location of the major sewer trunk lines needed to serve the GPU;
4. Prepare a cost estimate to construct the major sewer trunk lines;
5. Prepare a method of allocation of cost to the various areas for use in a future financing section of the GPU.
6. Provide a summary of the report that can be used in the GPU general report.

The Plan is preliminary and subject to modification and change during processing of the Project through the City and in response to other agency, developer, community, public comments and reviews, and environmental issues.

If sewer demands change because of adjustments in land uses, the issues to be addressed related to the sewer system will be the same but to a lesser or greater extent dependent on the adjustments made. However, even if changes occur, the basic framework in this SMP can be readily adjusted to recalculate and address the changes.

II. JURISDICTIONAL SEWER AGENCIES

General

The City of Wheatland will be the owner and operator of the sewage collection system and related facilities. The wastewater treatment facilities are addressed in a separate section of the GPU report.

State of California

1. Regional and State Water Quality Control Board is responsible for WWTP permitting & sewer system overflow protection.

III. PROJECT SEWER DEMANDS

Table 1 provides a summary by land use type, average day sewer demands and equivalent dwelling units (EDU's) for the GPU area. One EDU is defined as the amount of average day dry weather discharge into the sewer system by a single family detached residential lot, or one (1) EDU is equivalent to 270 gallons per day average day dry weather flow (ADDWF). Demands included in Table 1 have been developed for the City of

Wheatland based on City characteristics and from other similar areas within the Sacramento Valley.

GPU sewer demands are summarized as follows:

Type sewer demand	Average Day Dry Weather Flow mgd
GPU: Sewer demand	4.45
<u>Urban reserve (UR)</u>	<u>0.00</u>
Total GPU area	4.45
Existing City Limits: Sewer demand	0.59
Total GPU area + City Limits	5.04

Appendix A includes a further breakdown of the domestic use information included above by village. Note that the urban reserve designated areas have no demands assigned to them at this time. Appendix A contains:

1. Figure A1 and AIA of the GPU area with identifying numbers for areas by location and land use type. The identifying numbers for this report are called villages;
2. Table A1 with each village identifying numbers, the acreage, number of dwelling units if applicable, their land use type, and the ADDWF sewage demand.

The Numbering system used for Figure A1 and AIA and included in Table A1 is described as follows:

The GPU area was divided into 4 quadrants as follows:

The 100 quadrant:

Is located north of Wheatland Road and west of existing HWY65
Numbers 160 and up represent areas inside existing City limits.

The 200 quadrant:

Is located north of Spenceville Road and east of existing HWY65
Numbers 260 and up represent areas inside existing City limits.

The 300 quadrant:

Is located south of Wheatland Road and west of existing HWY65
Numbers 360 and up represent areas inside existing City limits.

The 400 quadrant:

Is located south of Spenceville Road and east of existing HWY65
Numbers 460 and up represent areas inside existing City limits.

IV. METHODOLOGY AND CRITERIA

General

The proposed major sewer trunk system placed sewer lines in the GPU major road system and provides that the entire GPU area can be served by a gravity sewer trunk line system with no lift stations required.

The sewer model was developed and system sized to include the existing City limits at build-out demands. Inclusion of the existing City limits at build-out demands provides for and allows elimination of the five (5) existing City sewage lift stations.

Design Criteria

1. Land uses:
 - a. See Figure 1, 1A and Appendix Figure A1, AIA
2. Sewer Average Day Dry Weather (ADDWF) flows:
 - a. GPU by type land use, see Table 1 (and Appendix Table A1) = 4.45 MGD.
 - b. Existing City limits at build-out see Appendix Table A1 = $\frac{0.59 \text{ MGD}}{= 5.04 \text{ MGD}}$
 - c. Total ADDWF
 - d.
3. Pipe sizing:
 - a. Mannings friction factor: $n = 0.013$
 - b. Peak flow factor: 4.5 to 2.3 depending upon ADDWF in a pipe section
 - c. Pipe designed to carry peak flow flowing full at:
 1. Minimum pipe slope under any condition: 0.0001 feet/foot
 2. Minimum pipe velocity flowing full: 2.0 feet/second
 3. Pipes under 12" diameter designed at 0.70 times depth full to allow for service line connections into the trunk line.
 4. Pipes over 12" diameter, no service connections allowed.
 - d. Minimum trunk main size: 8 inch diameter

Model Labeling

1. Pipe Labeling: corresponds to the quadrant number system noted above

V. MODELING RESULTS

The results of the modeling are shown in Figure 2 which gives the size and line number of the major sewer trunk system components modeled. Table 2 includes the peak flow in each pipe at design build-out.

The size and location of the major facilities are adequate to meet the GPU system sewer peak flows and the existing City limits at build-out peak flow demands.

Appendix B includes:

- Table B1 The table of sewer gravity line sizes and their capacity per the criteria above.
- Table B2 The pipe demand calculations and land use assignments by village.

VI. COST ESTIMATE

For the GPU area, the opinion of probable construction cost is \$12,642,091 and includes sewer lines, manholes, stub extensions from the manholes, and elimination of the five (5) existing sewage lift stations within existing City limits.

Table 2 includes, the number, size of pipe where applicable, number of units (feet of pipe, number lift stations, etc), peak flow in the pipe, unit price, total estimated construction cost and total adjusted cost. The adjusted cost includes 30% added to the estimated construction cost for design, agency plan check and inspection fees, processing, and contingencies.

The unit costs per foot for pipe including manhole spacing, side stubs from manholes, and lift station elimination are summarized in Appendix C, Table C1, and are based on recent costs in the Wheatland and Roseville area for similar work.

VII. COST ALLOCATION

The assumptions outline below are based on the premise that each Village will share in the cost of a sewer line segment based upon its share of the ADDWF in that segment of line. The existing City build-out flows are used to size the GPU pipe segments, but the existing City demands and lift station elimination costs are not used to determine cost sharing. Only the GPU areas are assumed to share in the total SMP costs which include the existing lift station elimination.

Using the above assumptions, allocation of the sewer system costs were performed as follows:

1. Each Village's ADDWF amount to a sewer line segment is determined. As the flow proceeds from upstream to downstream more Village's flows are added to the downstream line segment.
2. For a line segment, the cost of the line segment is divided by the ADDWF in that line segment. This yields a cost per ADDWF gallon per day.
3. The cost attributed to a Village for a particular line segment is calculated by multiplying the cost/ADDWF for that segment times the Village's ADDWF. This calculation is then performed for each Village and segment of line.
4. All of the GPU Villages are assumed to share the costs of the existing City sewer lift station elimination based on the total lift station elimination costs times there share of the total GPU area ADDWF.

Table 3 includes a summary by land use types and the total associated cost using the above methodology.

Appendix C, Table C2 contains a breakdown for each village's share of the sewer system costs.

TABLES

TABLE 1
LAND USE SUMMARY
WHEATLAND GPU
MAJOR INFRASTRUCTURE SEWER DOMESTIC DEMANDS
July 22, 2005

LAND USE	DESCRIPTION	ACRES	DWELLING UNITS	SEWAGE DEMAND average day		SEWER EDU's	
				gpd/unit	total	/unit	total
Single Family Residential							
PD-2	Residential 100' x150'	0.0	-	270	-	1.00	-
LDR	Low Density Residential	1824.6	7,298	270	1,970,557	1.00	7,298
PD-3.3	Residential 70' x 130'	0.0	-	270	-	1.00	-
PD-4	Residential 65' x 120'	0.0	-	270	-	1.00	-
PD-4.5	Residential 55' x 110'	0.0	-	270	-	1.00	-
LMDR	Low/Medium Density Res.	434.6	2,173	270	586,724	1.00	2,173
MDR	Medium Density Residential	256.1	2,049	270	553,176	1.00	2,049
Total Single Family Residential		2515.3	11,520		3,110,457		11,520
Other							
PD-12	Residential	0.0	-	270	-	1.00	-
HDR	High Density Residential	70.5	1,129	135	152,366	0.50	564
Total Multi-Family Residential		70.5	1,129		152,366		564
Total Residential		2585.8	12,649		3,262,823		12,085
Other							
C	Commercial	118.6	0	1750	207,463	6.48	768
E	Employment	298.9	0	1750	523,110	6.48	1,937
BP	Business Professional	0.0	0	1750	-	6.48	-
P	Park	99.1	0	275	27,255	1.02	101
Pcp	Community Park	0.0	0	275	-	1.02	-
MS	Middle School	36.9	0	2500	92,125	9.26	341
HS	High School	51.2	0	2000	102,360	7.41	379
ES	K-6 School	71.8	0	2500	179,375	9.26	664
OS	Open Space	141.8	0	0	-	0.00	-
ROAD	Roads R/W	0.0	0	0	-	0.00	-
Total Other		818.2	-		1,131,688		4,191
		3404.0	12,649		4,394,511		16,276
BUSINESS PROFESSIONAL							
CC	Civic Center	21.8	-	1750	38,168	6.48	141
WWTP	Wastewater Plant	29.0	-	500	14,480	1.85	54
PB	Other Public	14.1	-	0	-	0.00	-
LI	Light Industrial	0.0	-	2500	-	9.26	-
UR	Urban Reserve	4736.2	-	0	-	0.00	-
65BP	SR65 Bypass/Interchange	0.0	-	0	-	0.00	-
Total Business Professional		4801.1	-		52,648		195
Grand Total General Plan Study Area		8205.1	12,649		4,447,158		16,471

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TABLE 2
SEWER
WHEATLAND GPU
MAJOR INFRASTRUCTURE SEWER COSTS
July 22, 2005

Total Cost							
ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST a.	TOTAL	ADJUSTED COST @ 1.3	PEAK FLOW mgd
SEWER (Offsite)							
100	36 " Sanitary Sewer	1590	LF	\$ 238	\$378,420	\$ 491,946	11.60
101	27 " Sanitary Sewer	4509	LF	\$ 158	\$712,422	\$ 926,149	5.90
102	24 " Sanitary Sewer	2526	LF	\$ 138	\$348,588	\$ 453,164	4.47
103	15 " Sanitary Sewer	1443	LF	\$ 94	\$135,642	\$ 176,335	1.09
104	12 " Sanitary Sewer	2556	LF	\$ 106	\$270,936	\$ 352,217	0.80
105	15 " Sanitary Sewer	1553	LF	\$ 94	\$145,982	\$ 189,777	1.13
106	12 " Sanitary Sewer	2350	LF	\$ 106	\$249,100	\$ 323,830	0.86
107	27 " Sanitary Sewer	2279	LF	\$ 158	\$360,082	\$ 468,107	5.70
108	27 " Sanitary Sewer	1639	LF	\$ 158	\$258,962	\$ 336,651	5.49
109	8 " Sanitary Sewer	566	LF	\$ 96	\$54,336	\$ 70,637	0.28
110	10 " Sanitary Sewer	1266	LF	\$ 101	\$127,866	\$ 166,226	0.53
201	24 " Sanitary Sewer	2055	LF	\$ 138	\$283,590	\$ 368,667	3.28
202	21 " Sanitary Sewer	3237	LF	\$ 118	\$381,966	\$ 496,556	2.74
203	18 " Sanitary Sewer	1333	LF	\$ 106	\$141,298	\$ 183,687	2.24
204	15 " Sanitary Sewer	3173	LF	\$ 94	\$298,262	\$ 387,741	1.42
205	12 " Sanitary Sewer	337	LF	\$ 106	\$35,722	\$ 46,439	0.79
206	12 " Sanitary Sewer	2608	LF	\$ 106	\$276,448	\$ 359,382	0.67
207	8 " Sanitary Sewer	1495	LF	\$ 96	\$143,520	\$ 186,576	0.34
208	12 " Sanitary Sewer	2550	LF	\$ 106	\$270,300	\$ 351,390	0.64
209	10 " Sanitary Sewer	2280	LF	\$ 101	\$230,280	\$ 299,364	0.50
210	8 " Sanitary Sewer	959	LF	\$ 96	\$92,064	\$ 119,683	0.07
211	8 " Sanitary Sewer	851	LF	\$ 96	\$81,696	\$ 106,205	0.18
301	27 " Sanitary Sewer	3953	LF	\$ 158	\$624,574	\$ 811,946	5.34
302	24 " Sanitary Sewer	7872	LF	\$ 138	\$1,086,336	\$ 1,412,237	3.87
303	8 " Sanitary Sewer	1919	LF	\$ 96	\$184,224	\$ 239,491	0.25
304	12 " Sanitary Sewer	2617	LF	\$ 106	\$277,402	\$ 360,623	0.98
305	10 " Sanitary Sewer	1752	LF	\$ 101	\$176,952	\$ 230,038	0.44
306	12 " Sanitary Sewer	1868	LF	\$ 106	\$198,008	\$ 257,410	0.76
307	21 " Sanitary Sewer	1404	LF	\$ 118	\$165,672	\$ 215,374	2.33
401	18 " Sanitary Sewer	1177	LF	\$ 106	\$124,762	\$ 162,191	2.04
402	18 " Sanitary Sewer	1273	LF	\$ 106	\$134,938	\$ 175,419	1.78
403	10 " Sanitary Sewer	3510	LF	\$ 101	\$354,510	\$ 460,863	0.60
404	8 " Sanitary Sewer	2630	LF	\$ 96	\$252,480	\$ 328,224	0.06
405	12 " Sanitary Sewer	3159	LF	\$ 106	\$334,854	\$ 435,310	0.71
406	12 " Sanitary Sewer	2665	LF	\$ 106	\$282,490	\$ 367,237	0.82
LS1	Lift Station	1	EA	\$ 50,000	\$50,000	\$ 65,000	0.00
LS2	Lift Station	1	EA	\$ 50,000	\$50,000	\$ 65,000	0.00
LS3	Lift Station	1	EA	\$ 50,000	\$50,000	\$ 65,000	0.00
LS4	Lift Station	1	EA	\$ 50,000	\$50,000	\$ 65,000	0.00
LS5	Lift Station	1	EA	\$ 50,000	\$50,000	\$ 65,000	0.00
Sheet 2	DESCRIPTION	QUANTITY	UNITS	UNIT COST a.	TOTAL	ADJUSTED COST @ 1.3	
ITEM NO.							
		77369		TOTAL	\$ 9,724,684	\$12,642,091	

TABLE 3
LAND USE SUMMARY
WHEATLAND GPU
MAJOR INFRASTRUCTURE SEWER DOMESTIC DEMANDS
July 22, 2005

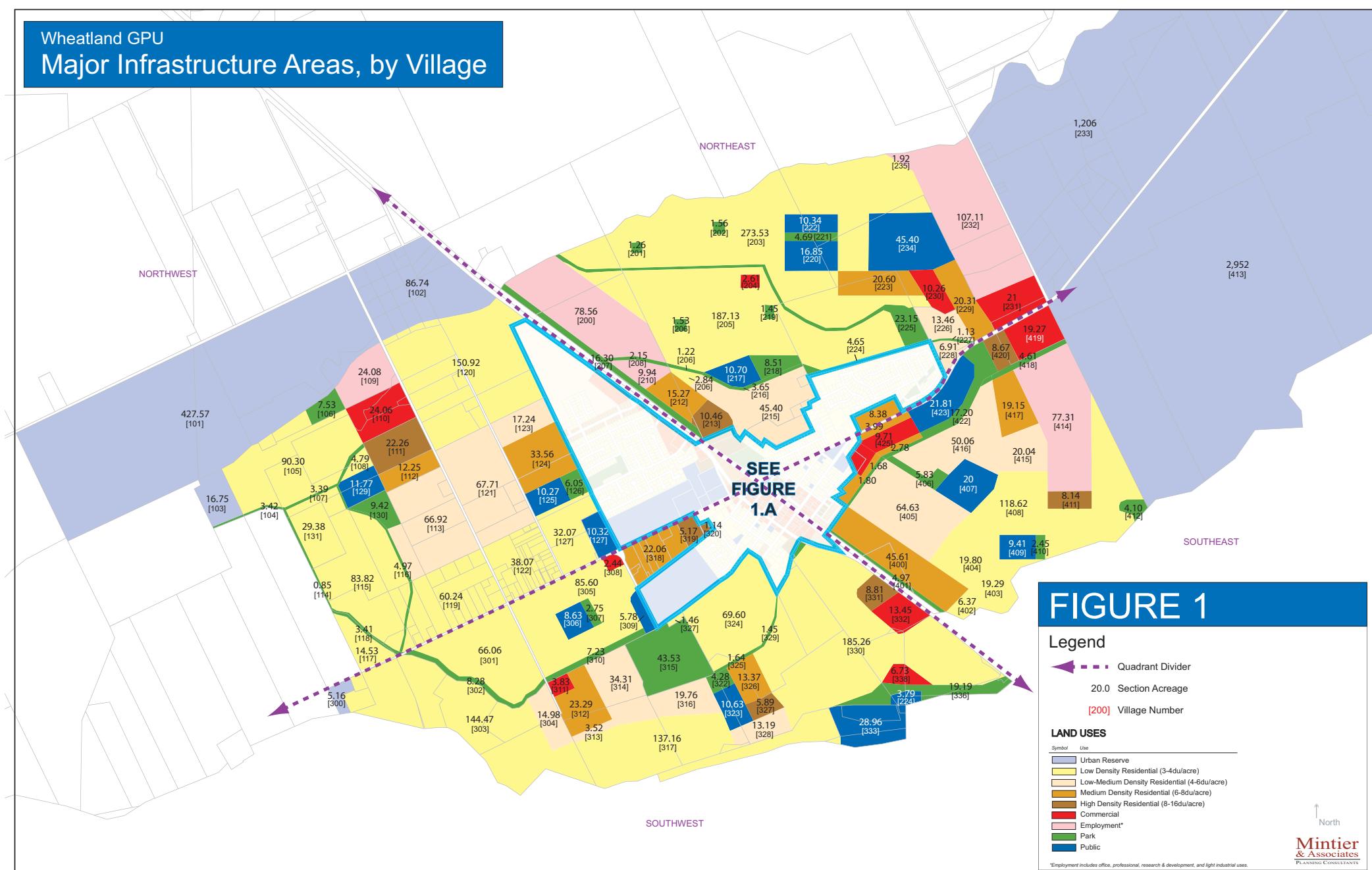
LAND USE	DESCRIPTION	ACRES	DWELLING	SEWAGE DEMAND		ALLOCATED COSTS
				UNITS	average day gpd/unit	
Single Family Residential						
LDR	Low Density Residential	1824.6	7,298	270	1,970,557	\$ 4,609,560.53
MDR	Medium Density Residential	256.1	2,049	270	553,176	\$ 2,145,035.98
Total Single Family Residential		2515.3	11,520		3,110,457	\$ 8,580,917.43
Other						
PD-12	Residential	0.0	-	270	-	\$ -
HDR	High Density Residential	70.5	1,129	135	152,366	\$ 460,783.19
Total Multi-Family Residential		70.5	1,129		152,366	460,783
Total Residential		2585.8	12,649		3,262,823	\$ 9,041,700.62
Other						
C	Commercial	118.6	0	1750	207,463	\$ 604,122.26
E	Employment	298.9	0	1750	523,110	\$ 1,664,294.15
BP	Business Professional	0.0	0	1750	-	\$ -
P	Park	99.1	0	275	27,255	\$ 60,497.47
Pcp	Community Park	0.0	0	275	-	\$ -
MS	Middle School	36.9	0	2500	92,125	\$ 320,296.40
HS	High School	51.2	0	2000	102,360	\$ 261,966.23
ES	K-6 School	71.8	0	2500	179,375	\$ 465,557.36
OS	Open Space	141.8	0	0	-	\$ -
ROAD	Roads R/W	0.0	0	0	-	\$ -
Total Other		818.2	-		1,131,688	3,376,734
		3404.0	12,649		4,394,511	\$ 12,418,434.49
BUSINESS PROFESSIONAL						
CC	Civic Center	21.8	-	1750	38,168	\$ 192,987.29
WWTP	Wastewater Plant	29.0	-	500	14,480	\$ 30,667.42
PB	Other Public	14.1	-	0	-	\$ -
LI	Light Industrial	0.0	-	2500	-	\$ -
UR	Urban Reserve	4736.2	-	0	-	\$ -
65BP	SR65 Bypass/Interchange	0.0	-	0	-	\$ -
Total Business Professional		4801.1	-		52,648	\$ 223,654.71
Grand Total General Plan Study Area		8205.1	12,649		4,447,158	\$ 12,642,089.20
594,966						

landusesum@B10

file: K:\1proj\12xx\1252\GPUusedemands170105.xls

FIGURES

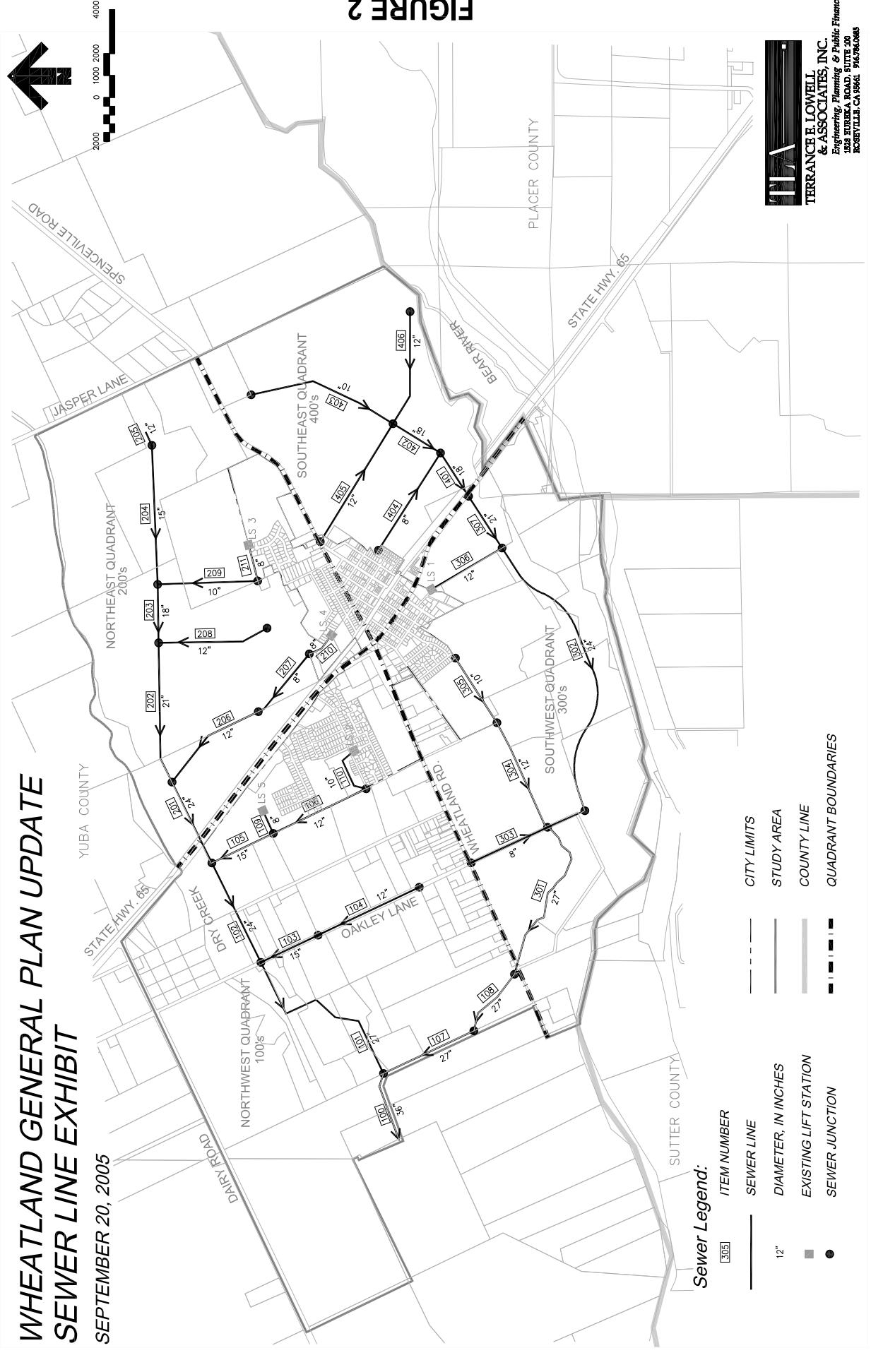
Wheatland GPU
Major Infrastructure Areas, by Village



WHEATLAND GENERAL PLAN UPDATE SEWER LINE EXHIBIT

SEPTEMBER 20, 2005

FIGURE 2



APPENDIX A

TABLE A1
WHEATLAND GPU
MAJOR INFRASTRUCTURE
July 22, 2005

SEWER
file: K:\1proj\12xx\1252\GPUusedemands170105.xls
Source: Terrance E. Lowell & Associates

VILLAGE NO.	ZONING	DESCRIPTION	ACRES	DWELLING UNITS	DU's/ACRE	SEWAGE DEMANDS	
						average day	gpd/unit
							total
100	UR	Urban Reserve	0.0	0	0.00	0	-
101	UR	Urban Reserve	427.6	0	0.00	0	-
102	UR	Urban Reserve	86.7	0	0.00	0	-
103	UR	Urban Reserve	16.8	0	0.00	0	-
104	OS	Open Space	3.4	0	0.00	0	-
105	LDR	Low Density Residential	90.3	361.2	4.00	270	97,524
106	P	Park	7.5	0	0.00	275	2,071
107	OS	Open Space	3.4	0	0.00	0	-
108	LDR	Low Density Residential	4.8	19.16	4.00	270	5,173
109	E	Employment	24.1	0	0.00	1750	42,140
110	C	Commercial	24.1	0	0.00	1750	42,105
111	HDR	High Density Residential	22.3	356.16	16.00	135	48,082
112	MDR	Medium Density Residential	12.3	98	8.00	270	26,460
113	LMDR	Low/Medium Density Res.	66.9	334.6	5.00	270	90,342
114	OS	Open Space	0.9	0	0.00	0	-
115	LDR	Low Density Residential	83.8	335.28	4.00	270	90,526
116	OS	Open Space	5.0	0	0.00	0	-
117	LDR	Low Density Residential	14.5	58.12	4.00	270	15,692
118	OS	Open Space	3.4	0	0.00	0	-
119	LDR	Low Density Residential	60.2	240.96	4.00	270	65,059
120	LDR	Low Density Residential	150.9	603.68	4.00	270	162,994
121	LMDR	Low/Medium Density Res.	67.7	338.55	5.00	270	91,409
122	LDR	Low Density Residential	38.1	152.28	4.00	270	41,116
123	LMDR	Low/Medium Density Res.	17.2	86.2	5.00	270	23,274
124	MDR	Medium Density Residential	33.6	268.48	8.00	270	72,490
125	ES	K-6 School	10.3	0	0.00	2500	25,675
126	P	Park	6.1	0	0.00	275	1,664
127	LDR	Low Density Residential	32.1	128.28	4.00	270	34,636
128	PB	Other Public	10.3	0	0.00	0	-
129	ES	K-6 School	11.8	0	0.00	2500	29,425
130	P	Park	9.4	0	0.00	275	2,591
131	LDR	Low Density Residential	29.4	117.52	4.00	270	31,730
200	E	Employment	78.6	0	0.00	1750	137,480
201	P	Park	1.3	0	0.00	275	347
202	P	Park	1.6	0	0.00	275	429
203	LDR	Low Density Residential	273.5	1094.12	4.00	270	295,412
204	C	Commercial	2.6	0	0.00	1750	4,568
205	LDR	Low Density Residential	187.1	748.52	4.00	270	202,100
206	P	Park	1.5	0	0.00	275	421
207	OS	Open Space	16.3	0	0.00	0	-
208	OS	Open Space	2.2	0	0.00	0	-
209	OS	Open Space	1.2	0	0.00	0	-
210	E	Employment	9.9	0	0.00	1750	17,395
211	LDR	Low Density Residential	2.8	11.36	4.00	270	3,067
212	MDR	Medium Density Residential	15.3	122.16	8.00	270	32,983
213	HDR	High Density Residential	10.5	167.36	16.00	135	22,594
214	MDR	Medium Density Residential	3.5	27.92	8.00	270	7,538
215	LMDR	Low/Medium Density Res.	45.4	227	5.00	270	61,290
216	OS	Open Space	3.7	0	0.00	0	-
217	ES	K-6 School	10.7	0	0.00	2500	26,750
218	P	Park	8.5	0	0.00	275	2,340
219	P	Park	1.5	0	0.00	275	399
220	MS	Middle School	16.9	0	0.00	2500	42,125
221	P	Park	4.7	0	0.00	275	1,290
222	ES	K-6 School	10.3	0	0.00	2500	25,850
223	MDR	Medium Density Residential	20.6	164.8	8.00	270	44,496
224	OS	Open Space	4.7	0	0.00	0	-
225	OS	Open Space	23.2	0	0.00	0	-
226	LMDR	Low/Medium Density Res.	13.5	67.3	5.00	270	18,171
227	OS	Open Space	1.1	0	0.00	0	-
228	LMDR	Low/Medium Density Res.	6.9	34.55	5.00	270	9,329
229	MDR	Medium Density Residential	20.3	162.48	8.00	270	43,870
230	C	Commercial	10.3	0	0.00	1750	17,955
231	C	Commercial	21.0	0	0.00	1750	36,750
232	E	Employment	107.1	0	0.00	1750	187,443
233	UR	Urban Reserve	1250.0	0	0.00	0	-
234	HS	High School	45.4	0	0.00	2000	90,800
235	E	Employment	1.9	0	0.00	1750	3,360
236	LDR	Low Density Residential	0.9	3.68	4.00	270	994
237	MDR	Medium Density Residential	8.4	67.04	8.00	270	18,101
238	LDR	Low Density Residential	2.4	9.44	4.00	270	2,549
300	UR	Urban Reserve	5.2	0	0.00	0	-

TABLE A1
WHEATLAND GPU
MAJOR INFRASTRUCTURE
July 22, 2005

SEWER
file: K:\1proj\12xx\1252\GPUusedemands170105.xls
Source: Terrance E. Lowell & Associates

VILLAGE NO.	ZONING	DESCRIPTION	ACRES	DWELLING UNITS	DU's/ACRE	SEWAGE DEMANDS	
						average day	total
301	LDR	Low Density Residential	66.1	264.24	4.00	270	71,345
302	OS	Open Space	8.3	0	0.00	0	-
303	LDR	Low Density Residential	144.5	577.88	4.00	270	156,028
304	LMDR	Low/Medium Density Res.	15.0	74.9	5.00	270	20,223
305	LDR	Low Density Residential	85.6	342.4	4.00	270	92,448
306	ES	K-6 School	8.6	0	0.00	2500	21,575
307	P	Park	2.8	0	0.00	275	756
308	C	Commercial	2.4	0	0.00	1750	4,270
309	HS	High School	5.8	0	0.00	2000	11,560
310	OS	Open Space	7.2	0	0.00	0	-
311	C	Commercial	3.8	0	0.00	1750	6,703
312	MDR	Medium Density Residential	23.3	186.32	8.00	270	50,306
313	MDR	Medium Density Residential	3.5	28.16	8.00	270	7,603
314	LMDR	Low/Medium Density Res.	34.3	171.55	5.00	270	46,319
315	P	Park	43.5	0	0.00	275	11,971
316	LMDR	Low/Medium Density Res.	19.8	98.8	5.00	270	26,676
317	LDR	Low Density Residential	137.2	548.64	4.00	270	148,133
318	MDR	Medium Density Residential	22.1	176.48	8.00	270	47,650
319	HDR	High Density Residential	5.2	82.72	16.00	135	11,167
320	HDR	High Density Residential	1.1	18.24	16.00	135	2,462
321	LDR	Low Density Residential	1.5	5.84	4.00	270	1,577
322	P	Park	4.3	0	0.00	275	1,177
323	ES	K-6 School	10.6	0	0.00	2500	26,575
324	LDR	Low Density Residential	69.6	278.4	4.00	270	75,168
325	OS	Open Space	1.6	0	0.00	0	-
326	MDR	Medium Density Residential	13.4	106.96	8.00	270	28,879
327	HDR	High Density Residential	5.9	94.24	16.00	135	12,722
328	LMDR	Low/Medium Density Res.	13.2	65.95	5.00	270	17,807
329	OS	Open Space	1.5	0	0.00	0	-
330	LDR	Low Density Residential	185.3	741.04	4.00	270	200,081
331	HDR	High Density Residential	8.8	140.96	16.00	135	19,030
332	C	Commercial	13.5	0	0.00	1750	23,538
333	WWTP	Wastewater Plant	29.0	0	0.00	500	14,480
334	PB	Other Public	3.8	0	0.00	0	-
335	C	Commercial	6.7	0	0.00	1750	11,778
336	OS	Open Space	19.2	0	0.00	0	-
400	MDR	Medium Density Residential	45.6	364.88	8.00	270	98,518
401	OS	Open Space	5.0	0	0.00	0	-
402	LDR	Low Density Residential	6.4	25.48	4.00	270	6,880
403	LDR	Low Density Residential	19.3	77.16	4.00	270	20,833
404	LDR	Low Density Residential	19.8	79.2	4.00	270	21,384
405	LMDR	Low/Medium Density Res.	64.6	323.15	5.00	270	87,251
406	OS	Open Space	5.8	0	0.00	0	-
407	MS	Middle School	20.0	0	0.00	2500	50,000
408	LDR	Low Density Residential	118.6	474.48	4.00	270	128,110
409	ES	K-6 School	9.4	0	0.00	2500	23,525
410	P	Park	2.5	0	0.00	275	674
411	HDR	High Density Residential	8.1	130.24	16.00	135	17,582
412	P	Park	4.1	0	0.00	275	1,128
413	UR	Urban Reserve	2950.0	0	0.00	0	-
414	E	Employment	77.3	0	0.00	1750	135,293
415	LMDR	Low/Medium Density Res.	20.0	100.2	5.00	270	27,054
416	LMDR	Low/Medium Density Res.	50.1	250.3	5.00	270	67,581
417	MDR	Medium Density Residential	19.2	153.2	8.00	270	41,364
418	OS	Open Space	4.6	0	0.00	0	-
419	C	Commercial	19.3	0	0.00	1750	33,723
420	HDR	High Density Residential	8.7	138.72	16.00	135	18,727
421	OS	Open Space	0.5	0	0.00	0	-
422	OS	Open Space	17.2	0	0.00	0	-
423	CC	Civic Center	21.8	0	0.00	1750	38,168
424	MDR	Medium Density Residential	2.8	22.24	8.00	270	6,005
425	C	Commercial	9.7	0	0.00	1750	16,993
426	MDR	Medium Density Residential	4.0	31.92	8.00	270	8,618
427	MDR	Medium Density Residential	1.7	13.44	8.00	270	3,629
428	C	Commercial	5.2	0	0.00	1750	9,083
429	OS	Open Space	1.8	0	0.00	0	-
430	MDR	Medium Density Residential	4.2	33.2	8.00	270	8,964
431	OS	Open Space	0.8	0	0.00	0	-
432	MDR	Medium Density Residential	2.6	21.12	8.00	270	5,702
Total Wheatland GPU			8205.1	12649	0.00		-
Total OTHER			-	-			-
Grand Total			0.0	8,205	12,649		5,042,124

APPENDIX B

TABLE B1**TABLE GRAVITY MAIN LINE SIZING****GRAVITY FLOW - Flowing Full and at 0.7 Diameter**

$$V = (1.486/n) * (R^{0.667}) * S^{0.5}$$

$$Q = V * A$$

WHERE: S = **0.001 FEET/FEE'** Minimum slope assumed for this table

n = 0.013

V_{min} = 2.000 FEET/SEC

DIA inches	A sq ft	SLOPE ft/ft	V ft/sec	Q cfs	Q gpd	Q gpm	Q mgd	Q mgd @d=.7 for 6, 8, &10"
								0.00
6	0.20	0.00490	2.00	0.39	253,790	176	0.25	0.38
8	0.35	0.00334	2.00	0.70	451,183	313	0.45	0.38
10	0.55	0.00248	2.00	1.09	704,973	490	0.70	0.60
12	0.79	0.00195	2.00	1.57	1,015,162	705	1.02	1.02
15	1.23	0.00144	2.00	2.45	1,586,190	1102	1.59	1.59
18	1.77	0.00113	2.00	3.53	2,284,114	1586	2.28	2.28
21	2.41	0.00100	2.08	5.01	3,237,346	2248	3.24	3.24
24	3.14	0.00100	2.28	7.15	4,622,252	3210	4.62	4.62
27	3.98	0.00100	2.46	9.79	6,328,160	4395	6.33	6.33
30	4.91	0.00100	2.64	12.97	8,381,325	5820	8.38	8.38
33	5.94	0.00100	2.82	16.72	10,807,045	7505	10.81	10.81
36	7.07	0.00100	2.98	21.09	13,629,786	9465	13.63	13.63
39	8.30	0.00100	3.15	26.11	16,873,283	11718	16.87	16.87
42	9.62	0.00100	3.31	31.81	20,560,617	14278	20.56	20.56
48	12.57	0.00100	3.61	45.42	29,356,256	20386	29.36	29.36
54	15.90	0.00100	3.91	62.19	40,190,595	27910	40.19	40.19
60	19.63	0.00100	4.19	82.37	53,230,392	36966	53.23	53.23

TABLE B2
WHEATLAND GPU
MAJOR INFRASTRUCTURE
July 22, 2005

SEWER

file: K:\1proj\12xx\1252\GPUusedemands170105.xls
Source: Terrance F. Lowell & Associates

APPENDIX C

TABLE C1
WHEATLAND GPU
PROPOSED SEWER LINE UNIT COSTS
July 22, 2005

file: K\1252 20\

file: K\1252.20\ Sheet: pipecost @ A36
Source: Terrance E. Lowell & Associates

TABLE C2
WHEATLAND GPU
MAJOR INFRASTRUCTURE
July 22, 2005

SEWER
file: K:\1proj\12xx\1252\GPUusedemands170105.xls
Source: Terrance E. Lowell & Associates

VILLAGE NO.	ZONING	DESCRIPTION	ACRES	DWELLING UNITS	SEWAGE DEMANDS		PORTION OF SEWER COST	
					average day	gpd/unit	BACKBONE	TOTAL SEWER
100	UR	Urban Reserve	0.0	0	0	-	\$ -	\$ -
101	UR	Urban Reserve	427.6	0	0	-	\$ -	\$ -
102	UR	Urban Reserve	86.7	0	0	-	\$ -	\$ -
103	UR	Urban Reserve	16.8	0	0	-	\$ -	\$ -
104	OS	Open Space	3.4	0	0	-	\$ -	\$ -
105	LDR	Low Density Residential	90.3	361.2	270	97,524	\$ 73,920	\$ 73,920
106	P	Park	7.5	0	275	2,071	\$ 1,570	\$ 1,570
107	OS	Open Space	3.4	0	0	-	\$ -	\$ -
108	LDR	Low Density Residential	4.8	19.16	270	5,173	\$ 3,921	\$ 3,921
109	E	Employment	24.1	0	1750	42,140	\$ 31,941	\$ 31,941
110	C	Commercial	24.1	0	1750	42,105	\$ 48,708	\$ 48,708
111	HDR	High Density Residential	22.3	356.16	135	48,082	\$ 55,622	\$ 55,622
112	MDR	Medium Density Residential	12.3	98	270	26,460	\$ 61,871	\$ 61,871
113	LMDR	Low/Medium Density Res.	66.9	334.6	270	90,342	\$ 211,245	\$ 211,245
114	OS	Open Space	0.9	0	0	-	\$ -	\$ -
115	LDR	Low Density Residential	83.8	335.28	270	90,526	\$ 55,311	\$ 55,311
116	OS	Open Space	5.0	0	0	-	\$ -	\$ -
117	LDR	Low Density Residential	14.5	58.12	270	15,692	\$ 11,267	\$ 11,267
118	OS	Open Space	3.4	0	0	-	\$ -	\$ -
119	LDR	Low Density Residential	60.2	240.96	270	65,059	\$ 125,773	\$ 125,773
120	LDR	Low Density Residential	150.9	603.68	270	162,994	\$ 223,706	\$ 223,706
121	LMDR	Low/Medium Density Res.	67.7	338.55	270	91,409	\$ 213,739	\$ 213,739
122	LDR	Low Density Residential	38.1	152.28	270	41,116	\$ 96,140	\$ 96,140
123	LMDR	Low/Medium Density Res.	17.2	86.2	270	23,274	\$ 92,792	\$ 92,792
124	MDR	Medium Density Residential	33.6	268.48	270	72,490	\$ 289,013	\$ 289,013
125	ES	K-6 School	10.3	0	2500	25,675	\$ 102,365	\$ 102,365
126	P	Park	6.1	0	275	1,664	\$ 6,633	\$ 6,633
127	LDR	Low Density Residential	32.1	128.28	270	34,636	\$ 138,090	\$ 138,090
128	PB	Other Public	10.3	0	0	-	\$ -	\$ -
129	ES	K-6 School	11.8	0	2500	29,425	\$ 22,303	\$ 22,303
130	P	Park	9.4	0	275	2,591	\$ 1,964	\$ 1,964
131	LDR	Low Density Residential	29.4	117.52	270	31,730	\$ 17,716	\$ 17,716
							\$ -	
200	E	Employment	78.6	0	1750	137,480	\$ 406,510	\$ 406,510
201	P	Park	1.3	0	275	347	\$ 604	\$ 604
202	P	Park	1.6	0	275	429	\$ 748	\$ 748
203	LDR	Low Density Residential	273.5	1094.12	270	295,412	\$ 627,342	\$ 627,342
204	C	Commercial	2.6	0	1750	4,568	\$ 15,257	\$ 15,257
205	LDR	Low Density Residential	187.1	748.52	270	202,100	\$ 802,695	\$ 802,695
206	P	Park	1.5	0	275	421	\$ 1,405	\$ 1,405
207	OS	Open Space	16.3	0	0	-	\$ -	\$ -
208	OS	Open Space	2.2	0	0	-	\$ -	\$ -
209	OS	Open Space	1.2	0	0	-	\$ -	\$ -
210	E	Employment	9.9	0	1750	17,395	\$ 91,746	\$ 91,746
211	LDR	Low Density Residential	2.8	11.36	270	3,067	\$ 10,245	\$ 10,245
212	MDR	Medium Density Residential	15.3	122.16	270	32,983	\$ 173,963	\$ 173,963
213	HDR	High Density Residential	10.5	167.36	135	22,594	\$ 119,165	\$ 119,165
214	MDR	Medium Density Residential	3.5	27.92	270	7,538	\$ 39,760	\$ 39,760
215	LMDR	Low/Medium Density Res.	45.4	227	270	61,290	\$ 204,726	\$ 204,726
216	OS	Open Space	3.7	0	0	-	\$ -	\$ -
217	ES	K-6 School	10.7	0	2500	26,750	\$ 89,353	\$ 89,353
218	P	Park	8.5	0	275	2,340	\$ 7,817	\$ 7,817
219	P	Park	1.5	0	275	399	\$ 1,332	\$ 1,332
220	MS	Middle School	16.9	0	2500	42,125	\$ 95,555	\$ 95,555
221	P	Park	4.7	0	275	1,290	\$ 2,926	\$ 2,926
222	ES	K-6 School	10.3	0	2500	25,850	\$ 58,637	\$ 58,637
223	MDR	Medium Density Residential	20.6	164.8	270	44,496	\$ 115,416	\$ 115,416
224	OS	Open Space	4.7	0	0	-	\$ -	\$ -
225	OS	Open Space	23.2	0	0	-	\$ -	\$ -
226	LMDR	Low/Medium Density Res.	13.5	67.3	270	18,171	\$ 47,133	\$ 47,133
227	OS	Open Space	1.1	0	0	-	\$ -	\$ -
228	LMDR	Low/Medium Density Res.	6.9	34.55	270	9,329	\$ 43,100	\$ 43,100
229	MDR	Medium Density Residential	20.3	162.48	270	43,870	\$ 120,826	\$ 120,826
230	C	Commercial	10.3	0	1750	17,955	\$ 46,572	\$ 46,572
231	C	Commercial	21.0	0	1750	36,750	\$ 101,217	\$ 101,217
232	E	Employment	107.1	0	1750	187,443	\$ 516,256	\$ 516,256
233	UR	Urban Reserve	1250.0	0	0	-	\$ -	\$ -
234	HS	High School	45.4	0	2000	90,800	\$ 238,433	\$ 238,433
235	E	Employment	1.9	0	1750	3,360	\$ 9,254	\$ 9,254
236	LDR	Low Density Residential	0.9	3.68	270	994	\$ 4,591	\$ 4,591
237	MDR	Medium Density Residential	8.4	67.04	270	18,101	\$ 83,631	\$ 83,631
238	LDR	Low Density Residential	2.4	9.44	270	2,549	\$ 11,776	\$ 11,776
							\$ -	
300	UR	Urban Reserve	5.2	0	0	-	\$ -	\$ -

TABLE C2
WHEATLAND GPU
MAJOR INFRASTRUCTURE
July 22, 2005

file: K:\1proj\12xx\1252\GPUusedemands170105.xls
Source: Terrance E. Lowell & Associates

VILLAGE NO.	ZONING	DESCRIPTION	ACRES	DWELLING UNITS	SEWER		PORTION OF SEWER COST	
					average day	gpd/unit	BACKBONE	TOTAL SEWER
					total			
301	LDR	Low Density Residential	66.1	264.24	270	71,345	\$ 319,017	\$ 319,017
302	OS	Open Space	8.3	0	0	-	\$ -	\$ -
303	LDR	Low Density Residential	144.5	577.88	270	156,028	\$ 173,918	\$ 173,918
304	LMDR	Low/Medium Density Res.	15.0	74.9	270	20,223	\$ 22,542	\$ 22,542
305	LDR	Low Density Residential	85.6	342.4	270	92,448	\$ 188,198	\$ 188,198
306	ES	K-6 School	8.6	0	2500	21,575	\$ 43,921	\$ 43,921
307	P	Park	2.8	0	275	756	\$ 1,540	\$ 1,540
308	C	Commercial	2.4	0	1750	4,270	\$ 8,692	\$ 8,692
309	HS	High School	5.8	0	2000	11,560	\$ 23,533	\$ 23,533
310	OS	Open Space	7.2	0	0	-	\$ -	\$ -
311	C	Commercial	3.8	0	1750	6,703	\$ 13,644	\$ 13,644
312	MDR	Medium Density Residential	23.3	186.32	270	50,306	\$ 102,409	\$ 102,409
313	MDR	Medium Density Residential	3.5	28.16	270	7,603	\$ 15,478	\$ 15,478
314	LMDR	Low/Medium Density Res.	34.3	171.55	270	46,319	\$ 94,291	\$ 94,291
315	P	Park	43.5	0	275	11,971	\$ 24,369	\$ 24,369
316	LMDR	Low/Medium Density Res.	19.8	98.8	270	26,676	\$ 56,498	\$ 56,498
317	LDR	Low Density Residential	137.2	548.64	270	148,133	\$ 313,733	\$ 313,733
318	MDR	Medium Density Residential	22.1	176.48	270	47,650	\$ 177,334	\$ 177,334
319	HDR	High Density Residential	5.2	82.72	135	11,167	\$ 41,560	\$ 41,560
320	HDR	High Density Residential	1.1	18.24	135	2,462	\$ 9,164	\$ 9,164
321	LDR	Low Density Residential	1.5	5.84	270	1,577	\$ 3,210	\$ 3,210
322	P	Park	4.3	0	275	1,177	\$ 2,493	\$ 2,493
323	ES	K-6 School	10.6	0	2500	26,575	\$ 56,284	\$ 56,284
324	LDR	Low Density Residential	69.6	278.4	270	75,168	\$ 279,747	\$ 279,747
325	OS	Open Space	1.6	0	0	-	\$ -	\$ -
326	MDR	Medium Density Residential	13.4	106.96	270	28,879	\$ 61,164	\$ 61,164
327	HDR	High Density Residential	5.9	94.24	135	12,722	\$ 26,945	\$ 26,945
328	LMDR	Low/Medium Density Res.	13.2	65.95	270	17,807	\$ 37,713	\$ 37,713
329	OS	Open Space	1.5	0	0	-	\$ -	\$ -
330	LDR	Low Density Residential	185.3	741.04	270	200,081	\$ 440,801	\$ 440,801
331	HDR	High Density Residential	8.8	140.96	135	19,030	\$ 44,356	\$ 44,356
332	C	Commercial	13.5	0	1750	23,538	\$ 54,864	\$ 54,864
333	WWTP	Wastewater Plant	29.0	0	500	14,480	\$ 30,667	\$ 30,667
334	PB	Other Public	3.8	0	0	-	\$ -	\$ -
335	C	Commercial	6.7	0	1750	11,778	\$ 27,452	\$ 27,452
336	OS	Open Space	19.2	0	0	-	\$ -	\$ -
						\$ -		
400	MDR	Medium Density Residential	45.6	364.88	270	98,518	\$ 247,860	\$ 247,860
401	OS	Open Space	5.0	0	0	-	\$ -	\$ -
402	LDR	Low Density Residential	6.4	25.48	270	6,880	\$ 17,308	\$ 17,308
403	LDR	Low Density Residential	19.3	77.16	270	20,833	\$ 82,089	\$ 82,089
404	LDR	Low Density Residential	19.8	79.2	270	21,384	\$ 84,259	\$ 84,259
405	LMDR	Low/Medium Density Res.	64.6	323.15	270	87,251	\$ 392,176	\$ 392,176
406	OS	Open Space	5.8	0	0	-	\$ -	\$ -
407	MS	Middle School	20.0	0	2500	50,000	\$ 224,742	\$ 224,742
408	LDR	Low Density Residential	118.6	474.48	270	128,110	\$ 504,789	\$ 504,789
409	ES	K-6 School	9.4	0	2500	23,525	\$ 92,695	\$ 92,695
410	P	Park	2.5	0	275	674	\$ 2,655	\$ 2,655
411	HDR	High Density Residential	8.1	130.24	135	17,582	\$ 69,280	\$ 69,280
412	P	Park	4.1	0	275	1,128	\$ 4,443	\$ 4,443
413	UR	Urban Reserve	2950.0	0	0	-	\$ -	\$ -
414	E	Employment	77.3	0	1750	135,293	\$ 608,587	\$ 608,587
415	LMDR	Low/Medium Density Res.	20.0	100.2	270	27,054	\$ 106,601	\$ 106,601
416	LMDR	Low/Medium Density Res.	50.1	250.3	270	67,581	\$ 303,765	\$ 303,765
417	MDR	Medium Density Residential	19.2	153.2	270	41,364	\$ 209,150	\$ 209,150
418	OS	Open Space	4.6	0	0	-	\$ -	\$ -
419	C	Commercial	19.3	0	1750	33,723	\$ 170,512	\$ 170,512
420	HDR	High Density Residential	8.7	138.72	135	18,727	\$ 94,691	\$ 94,691
421	OS	Open Space	0.5	0	0	-	\$ -	\$ -
422	OS	Open Space	17.2	0	0	-	\$ -	\$ -
423	CC	Civic Center	21.8	0	1750	38,168	\$ 192,987	\$ 192,987
424	MDR	Medium Density Residential	2.8	22.24	270	6,005	\$ 26,991	\$ 26,991
425	C	Commercial	9.7	0	1750	16,993	\$ 76,378	\$ 76,378
426	MDR	Medium Density Residential	4.0	31.92	270	8,618	\$ 38,738	\$ 38,738
427	MDR	Medium Density Residential	1.7	13.44	270	3,629	\$ 16,311	\$ 16,311
428	C	Commercial	5.2	0	1750	9,083	\$ 40,824	\$ 40,824
429	OS	Open Space	1.8	0	0	-	\$ -	\$ -
430	MDR	Medium Density Residential	4.2	33.2	270	8,964	\$ 223,161	\$ 223,161
431	OS	Open Space	0.8	0	0	-	\$ -	\$ -
432	MDR	Medium Density Residential	2.6	21.12	270	5,702	\$ 141,962	\$ 141,962
Total Wheatland GPU			8205.1	12649		-	\$ 12,642,089	\$ 12,642,089
Total OTHER			-	-		-	\$ -	\$ -
Grand Total			0.0	8,205	12,649	5,042,124	\$ 12,642,089	\$ 12,642,089